

D.) AMENDMENTS TO THE DRAWINGS

The attached replacement sheet of drawings includes changes to Figures 1-3. This sheet, which includes Figures 1-3, replaces the two original sheets that included Figures 1-3. In Figure 2, reference numeral 120 has been added and in Figure 3, reference numeral 220 has been added. It is submitted that no new matter has been added by the amendments to Figures 2 and 3 because support can be found in paragraphs [0018] and [0019] of the specification. In addition, Applicant is submitting a replacement drawing sheet that includes Figures 1-3 that corrects any informalities that may have been present in Figures 1-3 and to show lines and reference numerals uniformly in Figures 1-3.

Attachment: Replacement Sheet

E.) REMARKS

This Response is filed in response to the Office Action dated April 13, 2007.

Upon entry of this Response, claims 1-28 will be pending in the Application.

In the outstanding Office Action, the Examiner withdrew from consideration claims 3-14 and 17-28; objected to the drawings; objected to the specification; rejected claims 2 and 16 under 35 U.S.C. 112, second paragraph, as being indefinite; rejected claims 1, 2, 15 and 16 under 35 U.S.C. 102(b) as being anticipated by Williams (U.S. Patent No. 2,023,799); and objected to claims 1, 2, 15 and 16.

Rejection under 35 U.S.C. 102

The Examiner rejected claims 1, 2, 15 and 16 under 35 U.S.C. 102(b) as being anticipated by Williams (U.S. Patent No. 2,023,799), hereinafter referred to as "Williams."

Specifically, the Examiner stated that

Claims 1, 2, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams (US 2,023,799). Williams discloses a compressor having a linear motor 34, 35 connected to piston rod 39 via links 40 and 42. These links limit overtravel and undertravel of the piston.

Applicant respectfully traverses the rejection of claims 1, 2, 15 and 16 under 35 U.S.C. 102(b).

Williams, as understood, is directed to a compressor driven by a reciprocal operating means that operates electromagnetically. The reciprocal operating means includes a pair of operating cylinders surrounded by electromagnetic operating coils. A pair of magnetic cores or armatures, connected to each other by a rod, are adapted to reciprocate in respective cylinders. The rod is connected to a toggle linkage, which toggle linkage is, in turn, is connected to the piston of the compressor. When a coil is energized by one-half of the current (the other coil is energized by the other one-half of the current), the corresponding armature is drawn into the cylinder and the other armature is drawn from its respective cylinder. This movement of the armatures moves the piston of the compressor through a compression and suction stroke.

In contrast, independent claim 1 recites a reciprocating compressor comprising: a linear motor, the linear motor comprising an element configured and disposed to move axially; at least one piston and cylinder arrangement, the piston and cylinder arrangement comprising a cylinder, a piston configured and disposed to travel in the cylinder and a piston rod connected to the piston; and a mechanism operatively connecting the element of the linear motor to the piston rod to move the piston in the cylinder upon operation of the linear motor, the mechanism having a mechanical configuration to operate as a motion stop for the linear motor thereby limiting overtravel and undertravel of the piston in the cylinder.

Independent claim 15 recites a mechanism to connect a moving element of a linear motor to a piston rod of a piston-cylinder arrangement, the mechanism comprising a mechanical configuration to operate as a motion stop for the linear motor thereby limiting overtravel and undertravel of the piston in the cylinder.

The examiner is reminded that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).” See Manual of Patent Examining Procedure, 8th Edition (MPEP), Section 2131.

In addition, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).” See MPEP, Section 2131.

Several of the features recited by Applicant in independent claims 1 and 15 are not taught or suggested by Williams. First, Williams does not teach or suggest a linear motor as recited by Applicant in independent claim 1. The reciprocating operating means in Williams is not a linear motor as understood by one skilled in the art. In Williams, the reciprocal operating means would not be considered by one skilled in the art to be a linear motor because Williams requires two armatures to be connected together by a rod in order for the system in Williams to operate, while a linear motor only requires one "plate" for operation. Furthermore, assuming for argument purposes only that Williams does teach or suggest a linear motor, Williams does not teach or suggest that the "connecting" mechanism has a mechanical configuration to operate as a motion

stop for the linear motor. In Williams, the rod and the toggle linkage do not function as a motion stop for the movement of the armatures. The movement of the armatures is stopped by the formation of a compressed gas pocket in the cylinder of the energized coil by the respective armature. The compressed gas pocket can be used as a cushion and for additional energy upon a reversal of the direction of movement. *See Williams*, page 2, left-hand column, lines 67-76. Therefore, since a compressed gas pocket acts as a motion stop for movement in Williams, Williams cannot teach or suggest that the "connecting" mechanism in Williams operates as a motion stop. Thus, since Williams does not teach or suggest all of the limitations recited in independent claims 1 and 15, Applicant respectfully submits that Williams does not anticipate Applicant's invention as recited in independent claims 1 and 15.

Therefore, for the reasons given above, independent claims 1 and 15 are believed to be distinguishable from Williams and therefore are not anticipated nor rendered obvious by Williams.

Dependent claims 2 and 16 are believed to be allowable as depending from what are believed to be allowable independent claims 1 and 15 for the reasons given above. In addition, claims 2 and 16 recite further limitations that distinguish over the applied art, such as the connecting mechanism is an eccentric mechanism. In conclusion, it is respectfully submitted that claims 1, 2, 15 and 16 are not anticipated nor rendered obvious by Williams and are therefore allowable.

Rejection under 35 U.S.C. 112

The Examiner rejected claims 2 and 16 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Applicant regards as the invention. Specifically, the Examiner stated:

Claims 2 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no reference frame for "eccentric". Relative to what structure is the connecting rod eccentric?

Applicant respectfully traverses the rejection of claim 2 and 16 under 35 U.S.C. 112, second paragraph. Applicant has amended claims 2 and 16 in a manner that is believed to overcome the Examiner's rejection. Specifically, Applicant has amended "a connecting rod

eccentric mechanism" to "an eccentric mechanism" to more clearly define Applicant's invention recited in the claims. Applicant submits that the operation of an "eccentric mechanism" as a subset of the "connecting mechanism" is supported in the specification and Figures.

Therefore, in view of the above, Applicant submits that claims 2 and 16 are not indefinite and comply with the provisions of 35 U.S.C. 112, second paragraph, and therefore are allowable.

Objection to the Claims

The Examiner objected to claims 1, 2, 15 and 16 for "incorrectly referring to element 12 as a 'rotor'." In response thereto, Applicant has amended claims 1, 2, 15 and 16 in a manner believed to overcome the objection.

Objection to the Specification

The Examiner objected to the disclosure for the following reason:

The disclosure is objected to because of the following informalities: the specification refers to a "rotor 12". It would appear that this is a misnomer since element 12 is disclosed as reciprocating back and forth. It is furthermore not understood how the device would be capable of operating if element 12 rotated.

In response thereto, Applicant has amended paragraphs [0017]-[0019] in a manner believed to overcome the objection. Specifically, Applicant has removed the reference to "rotor" in the specification for the structure identified by reference numeral 12 and now refers to the structure identified by reference numeral 12 as an "element or member" to better correspond the description to the Figures. It is submitted that no new matter has been added by the amendments to the specification because support can be found in the Figures.

Objection to the Drawings

The Examiner objected to the drawings under 37 C.F.R. § 1.84(p)(5) because "they do not include reference sign(s) mentioned in the description: numeral 220 (para. 0019, line 1)." The Examiner also objected to the drawings because "lines and reference numerals are not uniformly drawn."

In response thereto, Figures 2 and 3 have been amended, as shown in the enclosed replacement drawing sheet, to add reference numeral 120 to Figure 2 and reference numeral 220 to Figure 3. It is submitted that no new matter has been added by the amendments to Figures 2 and 3 because support can be found in paragraphs [0018] and [0019] of the specification. In

addition, Applicant is submitting a replacement drawing sheet that includes Figures 1-3 that corrects any informalities that may have been present in the drawings and to show lines and reference numerals uniformly.

Therefore, in view of the above it respectfully requested that the Examiner reconsider and withdraw the objection to the drawings.

CONCLUSION

In view of the above, Applicant respectfully requests reconsideration of the Application and withdrawal of the outstanding objections and rejections. As a result of the amendments and remarks presented herein, Applicant respectfully submits that claims 1-28 are not anticipated by nor rendered obvious by Williams and thus, are in condition for allowance. As the claims are not anticipated by nor rendered obvious in view of the applied art, Applicant requests allowance of claims 1-28 in a timely manner. If the Examiner believes that prosecution of this Application could be expedited by a telephone conference, the Examiner is encouraged to contact the Applicant.

The Commissioner is hereby authorized to charge any additional fees and credit any overpayments to Deposit Account No. 50-1059.

Respectfully submitted,
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